

REMARKS

Claims 1-31 are pending in the present application. Claims 1, 21 and 23 are independent claims. Claims 1, 21 and 23 are amended by this Reply. Reconsideration of this application, as amended, is respectfully requested.

Reasons for Entry of Amendments

At the outset, it is respectfully requested that this Amendment be entered into the Official File in view of the fact that the amendments to the claims automatically place the application in condition for allowance.

In the alternative, if the Examiner does not agree that this application is in condition for allowance, it is respectfully requested that this Amendment be entered for the purpose of appeal. This Amendment was not presented at an earlier date in view of the fact that Applicants did not fully appreciate the Examiner's position until the Final Office Action was reviewed.

REJECTIONS UNDER 35 U.S.C. §103

Claims 1-31 stand rejected under 35 U.S.C. §103(a) over U.S. Patent No. 6,411,346B1 to Numano et al. (Numano), in view of U.S. Patent No. 5,995,175A to Kim et al. (Kim). This rejection is respectfully traversed.

Applicants respectfully submit that neither Numano, nor Kim discloses or suggests combinable claimed features of the Applicants' invention, and therefore,

if the two references were combined, they would not produce the Applicants' claimed invention. Further, there is no motivation to combine the two references.

With regard to motivation to combine, in the arrangement including the metallic pattern of the Applicants' claimed invention, a degree of overlap of the drain electrode or the storage electrode by the pixel electrode can be minimized. Accordingly the aperture ratio is enhanced.

It is noted at the outset that pixel electrode 12 of Numano entirely overlaps drain electrode 8 (metallic pattern not surrounding the cell). In other words, Numano teaches away from a metallic pattern surrounding the cell as provided by the Kim reference. Therefore, before the issues discussed below are reached, there is no motivation to combine the teachings of Numano and the teachings of Kim.

In addition, we note the following points with regard to Numano and Kim:

Numano

Numano fails to disclose or suggest a metallic pattern surrounding the cell (admitted).

Kim

Kim fails to disclose or suggest a metallic pattern including a drain electrode and storage electrode in a single layer, and the storage electrode is an upper electrode of said storage capacitor.

In the current Office Action, the Examiner asserts that Numano discloses a metallic pattern including a drain electrode and a storage electrode in a single layer, and that Kim discloses a metallic pattern surrounding the cell. Accordingly, the Examiner asserts, one having ordinary skill in the art would be motivated to combine these references to produce a claimed feature of the Applicants' invention.

However, another problem arises that prevents the two references from being combined. That is, at least, the metallic pattern of Kim forms a lower electrode of a storage capacitor (as opposed to upper). In other words, Kim fails to teach that the storage electrode is an upper electrode of said storage capacitor, and is formed over the one of the gate lines. The upper electrode (storage electrode) of the storage capacitor of Kim is actually pixel electrode 4. In other words it is neither a drain electrode, nor an upper storage electrode of a storage capacitor. The lower electrode (metallic pattern) is metal pattern 10, with insulating layer 2 disposed therebetween to serve as a dielectric (FIGs. 11, 12, 13 and Col. 22, lines 28-34). It can be seen in FIG. 13 that metallic pattern 10 (lower electrode) is disposed upon a surface of the substrate 100. Therefore, being a lower electrode of a storage capacitor, it cannot be substituted as an upper storage electrode of a storage capacitor, especially the storage capacitor of Numano. The ring-type storage electrode 10 of Kim is an add-on, which is formed below the thin film transistor in its entirety. Further, the drain electrodes of Kim (same upper storage electrodes of Numano) are disposed at a remote distance from the lower capacitor electrodes of Kim. It is also very significant that the lower capacitor electrode

pattern of Kim does not include a drain electrode. This makes a combination yet more difficult.

Therefore, the drain electrodes of either Numano, or Kim cannot be combined with (or substituted by) the lower capacitor electrode 10 of Kim. Not only is there a lack of motivation to combine, but any substitutions or combinations (as a practical matter) are impossible. Kim cannot supply the deficiency of Numano.

Therefore, Numano, in view of Kim, fails to disclose or suggest a metallic pattern, surrounding the cell, including a drain electrode of the thin film transistor and storage electrode of the storage capacitor in a single layer and being electrically connected to the pixel electrode, wherein the storage electrode is an upper electrode of said storage capacitor, as recited in independent claim 1, and similarly stated in independent claims 21 and 23.

Claims 2-20, 22 and 24-31, depend, either directly or indirectly on independent claims 1, 21 and 23. Since Numano, in view of Kim fails to disclose or suggest the above-recited features of independent claims 1, 21 and 23, Numano, in view of Kim, cannot render claims 1-31 obvious to one of ordinary skill in the art. Reconsideration and withdrawal of this art grounds of rejection are respectfully requested.

CONCLUSION

Applicants point out that all of the Examiner's comments have been addressed and that all of the Examiner's objections and rejections have been

overcome, thereby placing all claims pending in the present Application in condition for allowance. Allowance of the claims is respectfully solicited.

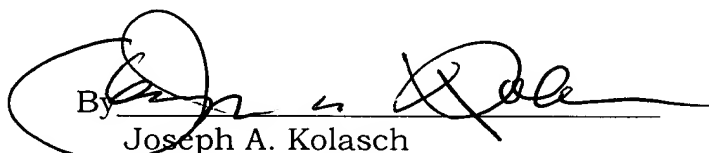
In the event that any outstanding matters remain in this application, Applicants request that the Examiner contact Percy L. Square at (703) 205-8034 to discuss such matters.


Attached hereto is a marked-up version of the changes made to the application by this Amendment.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By 
Joseph A. Kolasch
Reg. No. 22,463


JAK/PLS/asc
2658-0190P

P.O. Box 747
Falls Church, VA 22040-0747
(703) 205-8000